PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH COLUMBIA

Donna Creek Biodiversity Project (Cavity Nester Habitat Selection), Progress Report 1992/93

M. D. Wood
October 1992

PWFWCP Report No. 19

105-00911/

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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Habitat Conservation Fund of B.C.

The Donna Creek Forestry/Biodiversity Project is a cooperative venture of:

Peace/Williston Compensation Program

Fletcher Challenge Canada Ltd.

Habitat Conservation Fund oF B.C.

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DONNA CREEK BIODIVERSITY PROJECT: PROGRESS REPORT. 1992/93

1.0 BACKGROUND:

This project aims to develop and test alternate forest harvesting systems designed to maintain critical habitat elements required for the maintenance of biological diversity. Three treatments, as described under "Results to Date" and a conventionally logged control have been included in each of three cutblocks resulting in an experimental design which will be evaluated for use over time by breeding birds, especially cavity nesters, and by pine marten. Survey techniques include transects for breeding birds and pine marten, and examination of sample snags for documentation of snag deterioration and cavity nester use. In year 1 (of a minimum 10 year project), the blocks were logged, snag assessment monitoring began, and transects were laid in preparation for winter furbearer surveys. Cooperators on this project include the Habitat Conservation Fund (HCF), the Williston Wildlife Compensation Program (WWCP), Fletcher Challenge Canada Ltd (FCCL), and the B.C. Forest Service (BCFS).

2.0 OBJECTIVES:

The objective of this project is to develop and test alternate forest harvesting techniques designed to maintain critical habitat elements required for the maintenance of biological diversity. This project has the potential to:

(1) Provide foresters and biologists with a proven tool to use in management for biological diversity.

(2) Provide a demonstration area to educate, discuss and promote the cooperative management of forests for biological diversity.

3.0 TECHNICAL DETAILS:

Three blocks were selected in the ESSF zone and flagged to delineate the various treatment areas, and the habitat features that were to remain after logging. Two blocks were logged in October 1991, and the third in August 1992. Each block was divided into four sections which included three treatment areas and a conventionally logged control. Treatment 1 consisted of retaining 8-10 short snags per hectare of cutblock. The stubs were created by topping existing trees at a height of 3-4 metres with a mechanical feller-buncher. Treatment 2 included the retention of one 0.25 hectare island of mixed age timber for every 8 hectares of area clearcut. These islands include snags, as well as dominant, intermediate and suppressed trees. Treatment 3 comprised of a combination of treatments 1 and 2. This project seeks to provide an option to forest managers for retaining habitat features important for the maintenance of biological diversity.

4.0 RESULTS TO DATE:

4.1 Enhancement Activities:

Three blocks were logged in the ESSF zone in the Mackenzie Forest District, by Fletcher Challenge contractors Norman Kalyn Logging and Dave Zacharias, owner-operator of the feller-bunchers. Each of the three blocks are as similar as possible with respect to elevation, forest cover type, size and aspect as shown in Table 1.

Blocks 5546 and 5547 were logged between late September and early November, 1991. Six islands of timber comprising a total of 1.0 hectare were left in Block 5546, while 8 islands totalling 1.6 hectares were left in Block 5547 (some islands were slightly under the 1/4 hectare size proposed). The blocks were site prepared in August 1992. The logging of Block 516 was delayed by Fletcher Challenge, therefore, Block 5548 was substituted for 516 and logged in January 1992. However, the winter logging of that block left large amounts of slash, with burning being the easiest and most economical choice of site preparation. It was decided between FCCL and WWCP to delete Block 5548 from the study, and proceed with summer logging of our original Block 516. The delays in logging this third study block naturally delayed the timing of the first breeding bird survey which had been scheduled for the spring of 1992. In addition, the vegetation surveys were delayed due to the timing of site preparation. Block 516 was logged in late August/September of 1992. The number of hectares of standing timber left in the block is unavailable at this time. Site prep in a small area of the block is scheduled for late June/early July of 1993: after the spring breeding bird surveys and before the vegetation surveys.

Table 1. Characteristics of experimental blocks.

BLOCK	*1* (371-516)	*2 (373-5546)*	3 (373-5547)
SIZE (HA)	113	90.6	111.5
ELEVATION (M)	1080-1330m	1000 - 1180 m	1010 - 1200 m
MAJOR TIMBER TYPES	BSw833, PISw732, PI833, SwB834	BPI733, SwBPI834, PISwB733	SwB844, SwB(PI)732 BSwPI844
ECOSYSTEM ASSOCIATIONS	ESSFmv3 01,03	ESSFmv3 01,05	ESSFmv3 01, 04, 05
SLOPE	20.8%	24.0%	13.0%
ASPECT	Southwest	Southwest	Southwest

Each of the three blocks were divided into four sections with the three treatments and control assigned randomly in each block (see maps in Appendix A). Problems were encountered in the logging of Block 516 and necessitated adjustment of the treatment

boundaries. A slide area was identified in the block, and under MoF suggestion, the timber was left standing in that area creating a larger "island". The slide area was initially in the "control" quarter of the block; the treatment areas were reconfigured to include the slide area (and thus the timber left surrounding it), in the "islands only" section of the block.

Treatment 1 consisted of leaving 5 - 10 "short snags" or "stubs" per hectare of cutover. These stubs were created by topping existing trees at a height of three metres with a feller buncher. The three meter height conforms with the maximum height allowed by the Worker's Compensation Board. Approximately one third of the stubs fell into each the following three classes: dead, dying and healthy green trees. Species included Engelmann spruce, lodgepole pine and subalpine fir. The stubs were evenly distributed throughout the treatment area. Any live healthy deciduous trees were left untouched where possible to reflect normal logging practices. The specifications called for at least half of the retained stubs to be greater than 30 cm d.b.h. with a component of larger stubs (greater than 50 cm dbh) where possible. No stubs less than 15 cm dbh were retained. When a residual snag less than 3 m was found during logging, it was left intact unless it was considered to be a hazard.

Treatment 2 consisted of retaining 0.25 hectare "clumps" or "islands" of standing timber at the frequency of one clump for each 8 hectares of treatment area. Some of the clumps were slightly smaller after logging. Where necessary the clumps were situated to minimize the chances of blowdown, otherwise the clumps were evenly distributed within the treatment area. For safety reasons, residual snags along the edge of the clumps were topped with a feller-buncher at 3 m. Some of the largest healthy trees near the perimeter were also topped at three metres to contour the edges of the clumps in an attempt to reduce blowdown. Treatment 3 was a combination of treatments 1 and 2, with both islands and snags left according to the above densities.

A sample of stubs required in treatments 1 and 3 were marked with paint in each block to help the buncher operators visualize the 5 - 10 snags per hectare. The remainder of the snag selection was left to the feller-buncher operators trained in the selection criteria. The perimeters of the "islands" in treatments 2 and 3 were marked out prior to logging. The clearcut "control" areas were logged according to current clearcutting practices.

4.2 Monitoring Activities:

Since breeding bird surveys were cancelled for this fiscal year due to delays in the logging of Block 516, monitoring proceeded with the assessment of snag deterioration. All of the stubs in Block 5547, and all of the trees, dead or alive, in four of the green tree retention islands (two in each of the treatments containing islands) were marked with numbered tags and their positions were recorded on a map. The marked snags will be periodically re-examined as outlined in the monitoring schedule shown in Table 2 under "Future Activities" below. Attributes sampled included: species, site position, D.B.H., height, decay stage (based on a 9 class system developed by the Wildlife Tree Committee of B.C. which takes into account the heartwood, sapwood and root conditions), top condition, and % bark remaining.

Data was also collected on the use of these trees by wildlife species. When a cavity was located, an attempt was made to determine whether it was an active nesting cavity. Because primary cavity nesters excavate fresh nest cavities each spring (Keisker, 1987), the ground around each snag was examined for the presence of wood chips. (If wood chips are present, their relation with respect to the previous season's leaf litter will aid in determining whether the cavity was excavated in the current season.) If the cavity appeared to be fresh, field personnel tried to confirm active nesting cavities by observing adults entering or leaving the cavity or by listening for young calling from the nest. Secondary cavity nesters do not excavate their own cavities, so identifying cavities as possible candidates for nests was more difficult. All cavities were watched closely for signs of activity.

Each cavity was classified as an active nesting cavity, an old unoccupied cavity or a cavity start (incompletely excavated). Where active nests were confirmed, diameter of the cavity entrance, height of the cavity above the ground, snag diameter at hole height, type of cavity (excavated or natural), compass orientation of the cavity, condition of wood containing the cavity (if possible), and occupying species were recorded for each cavity. If the cavity was old, the suspected excavator was recorded. Open nests were classified as active/inactive; the species nesting and the nest position in the tree were also recorded.

The following information was recorded for feeding sign: location (top/bottom/throughout), degree of use (minimal/extensive), and species using tree if known. The location of feeding sign recorded in subsequent samplings will be compared with previous samplings in order to identify new feeding sign. Bird species perching on wildlife trees were also recorded, as were signs of other wildlife use including porcupine chewing, squirrel dens/caches, marten dens etc. [See attached report, "Cavity Nester Habitat Selection Project, Phase 1 Report: Snag Deterioration" by Linda J. Murray, contractor, for detailed results.] Snag sampling began in July 1992 and was completed in September 1992.

In addition to snag sampling, transects were laid in preparation for winter furbearer track surveys and spring breeding bird surveys. The transect sampling method was chosen for its relative ease, flexibility and economic benefits. Transects were located and flagged in all four treatments in each of the three blocks. Approximately 1.5 km of transects were located for each 25 hectares of treatment area. Transects were spaced 150 metres apart and covered the entire treatment area. The beginning and end of each transect were marked with metal tree tags and flagging. Ten meter intervals along transects were marked with a combination of flagging. At these points, the distance and treatment unit were marked on the flagging tape with permanent felt pen. Every 100 meters, a tall metal rod was established to be visible above the snow for winter track surveys. To aid with distance estimations for breeding bird surveys, markers at distances of 25, 50 and 75 metres were flagged perpendicular to the 100 metre marks.

After receiving editing comments on the first draft of the Working Plan for this project, the study design was revised to included three 25 hectare old growth control areas. These will be comparable to the approximately 25 hectare treatment areas in each of the three blocks. The old growth control areas were selected in the leave strips adjacent to the cutblocks. Few other suitable areas remain in this drainage that are representative of the forest cover type in the area. The old growth areas will also be monitored for use by breeding birds and furbearers,

and transects were located in these areas. The laying of transects was completed by October 1992.

The above monitoring of snag deterioration and locating of transects was carried out by contractor (see "Contractor Performance" section following). In addition, the contractor was required to describe and map each block after logging. Each block was mapped at the 1:10,000 scale showing topographic contours and the location of treatments, green tree retention clumps, sampling transects, ecosystem association boundaries, roads, landings, surrounding forest types, forest types within the old growth control areas, creeks, brush piles and any other features of possible significance to birds and small mammals. Pre-Harvest Silvicultural Prescriptions and cruise data are also included in the description. This is the only component of the contractors work that has not been completed and submitted to WWCP. The deadline for completion of the maps is December 15, 1992. Preliminary mapping and description is all in order.

5.0 PUBLIC REACTION:

Public reaction has been positive and highly supportive of the project. Media coverage has included numerous press releases and articles in the Fletcher Challenge and Williston Compensation Program newsletters. The project was also presented at the Williston Compensation Program spring public workshops in Mackenzie and Hudson's Hope, BC. Public response was generally positive. Comments were made on the size and density of the islands retained in Treatment 2: whether they would really benefit any wildlife, and why the density and/or size could not be increased. As this project required the support of a major logging company, we felt pleased that Fletcher Challenge was willing to modify the blocks for us as they did, and expressed this at the workshops. [NOTE: Clippings of press releases are included in Appendix B.]

6.0 PHOTOGRAPHIC RECORD:

Photos were taken during logging of the blocks and depict the feller-buncher in action, the remaining islands and snags, and aerial shots of the sites. A sample of the snags that were surveyed during the summer were also photographed in order to visually compare their decay rate over the life of the project.

7.0 BUDGET DETAILS:

7.1 92/93 FISCAL YEAR:

TASK:	Cost Sharing Details WWCP	FCCL	HCF
Williston Biologist- Planning 17 days @ $170/day	2,890		
Williston Biologist- Field work 5 days @ $170/day	850		
Williston Co-op Student- Field assist 9 days @ $110/day	990		
Williston Vehicles 8 days @ $50/day	400		
Contractor- Snag Assessments 26 days @ S225/day			5,850
Contractor- Transects 19 days @ $200/day			3,800
Contractor- Transects 8 days @ $200/day	1,600		
Contract Assistance- Transects 16 days @ $100/day			1,600
Contractor- Block Mapping 10 days @ $225/day			2,250
Contractors vehicle expenses 21 days @ $20/day	420		
Accommodation- Summer 52 days @ $65/day		3,380	
Flagging Tape and Film	300		
Williston Bio.- Summer reporting 5 days@ $170/day	850*		
Snowmobile Purchases	14,000*		
Williston Bio.- Furbearer planning 5 days @ $170.00/day	850*		
Williston Bio's-Furbearer fieldwork 30 days @ $170/day	5,100*		
Accommodation- Winter 30 days @ $65/day		1,950*	
Williston Vehicles 10 days @ $50/day	500*		
Williston Bio.- Furbearer report 5 days @ $170/day	850*		
TOTAL	$29,600	$5,330	$13,500

* Denotes "Projected Expenditures" for this 92/93 fiscal year.

7.2 93/94 FISCAL YEAR:

TASK:		Cost Sharing Details WWCP	FCCL	HCF	BCFS
01	Wildlife Biologist (Williston) 20 days @ $170.00/day	3,400			
10	Accommodation 60 days @ $65.00/day		3,900		
10	Vehicle Rentals 6 days @ $60.00/day	360			
20	Wildlife biologist (contract) 42 days @ $250.00/day			10,500	
20	Vegetation Specialist 15 days @ $150.00/day				2,250
50	Flagging Tape and Film	300			
Reporting Budget					
01	Wildlife Biologist (Williston) 6 days @ $170.00/day	1,020			
20	Wildlife Biologist (Contract) 15 days @ $250.00/day			3,750	
68	Word-processing 2 days @ $80.00/ day	160			
	TOTAL	$5,240	$3,900	$14,250	$2,250

8.0 FUTURE ACTIVITIES:

Winter furbearer track surveys will begin this November. Planning has been initiated and the transects have been laid. Winter use by marten, fisher and other small mammals will be sampled using the same transects established for breeding birds. Each track crossing the transect line will be identified and its location recorded on 50 metre segments along the transect. All transects in each of the three blocks and the old growth areas will be surveyed four to five times over the winter, each survey taking about 4 man-days to complete. If possible, the transects will be surveyed two to three days after a fresh snowfall. The last survey will be conducted in March, weather permitting.

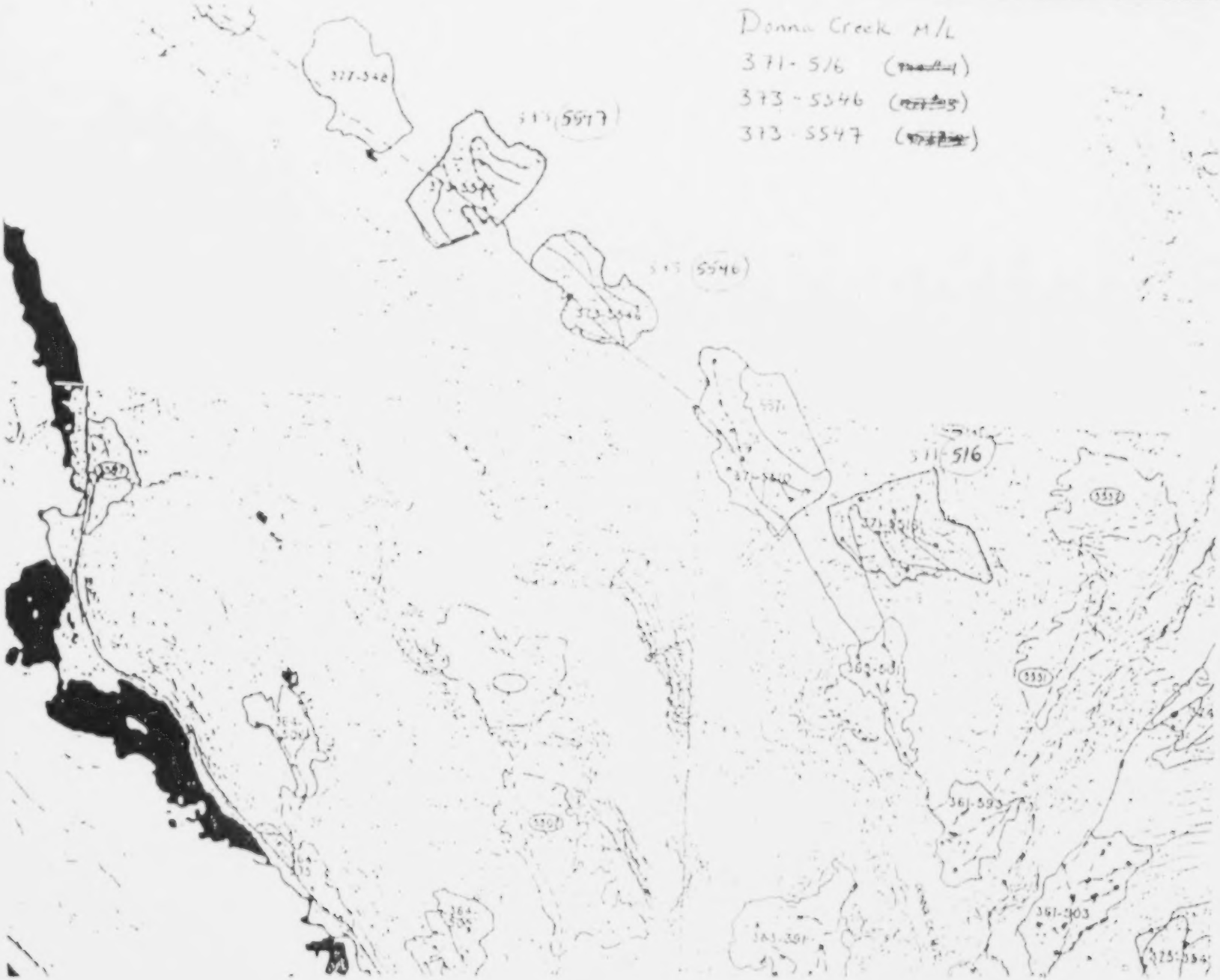
Activities in the 93/94 fiscal year include breeding bird surveys in spring, the final site prep of Block 516, and the establishment of vegetation plots for monitoring vegetation growth. Table 2 outlines the schedule of monitoring activities for the next 10 years.

Table 2. Monitoring schedule for the first 10 years post harvesting. Numbers are manday estimates for each activity. Year 1 covers April 1/92 to March 31/93.

ACTIVITY/YEAR	1	2	3	4	5	6	7	8	9	10
BLOCK DESCRIPTION AND MAPPING	8									
MARK BREEDING BIRD AND FURBEARER TRANSECTS	20			8		8			8	
SURVEY BREEDING BIRDS		42		42			42			42
VEGETATION SAMPLING		15		15			15			15
MARK SAMPLE SNAGS	6					2			2	
SAMPLE SNAG ATTRIBUTES AND USE	24		26			26			26	
SURVEY WINTER FURBEARERS	32		32			32			32	
TOTAL FIELD MANDAYS	90	57	58	65		68	57		68	
REPORTING (CONTRACT)	25	15	20	15		20	15		20	15
REPORTING (WILLISTON WILDLIFE STAFF)	10	6	6	6	10	6				15
TOTAL PROJECT MANDAYS	125	78	84	86	10	94	72	0	88	87

APPENDIX "A"

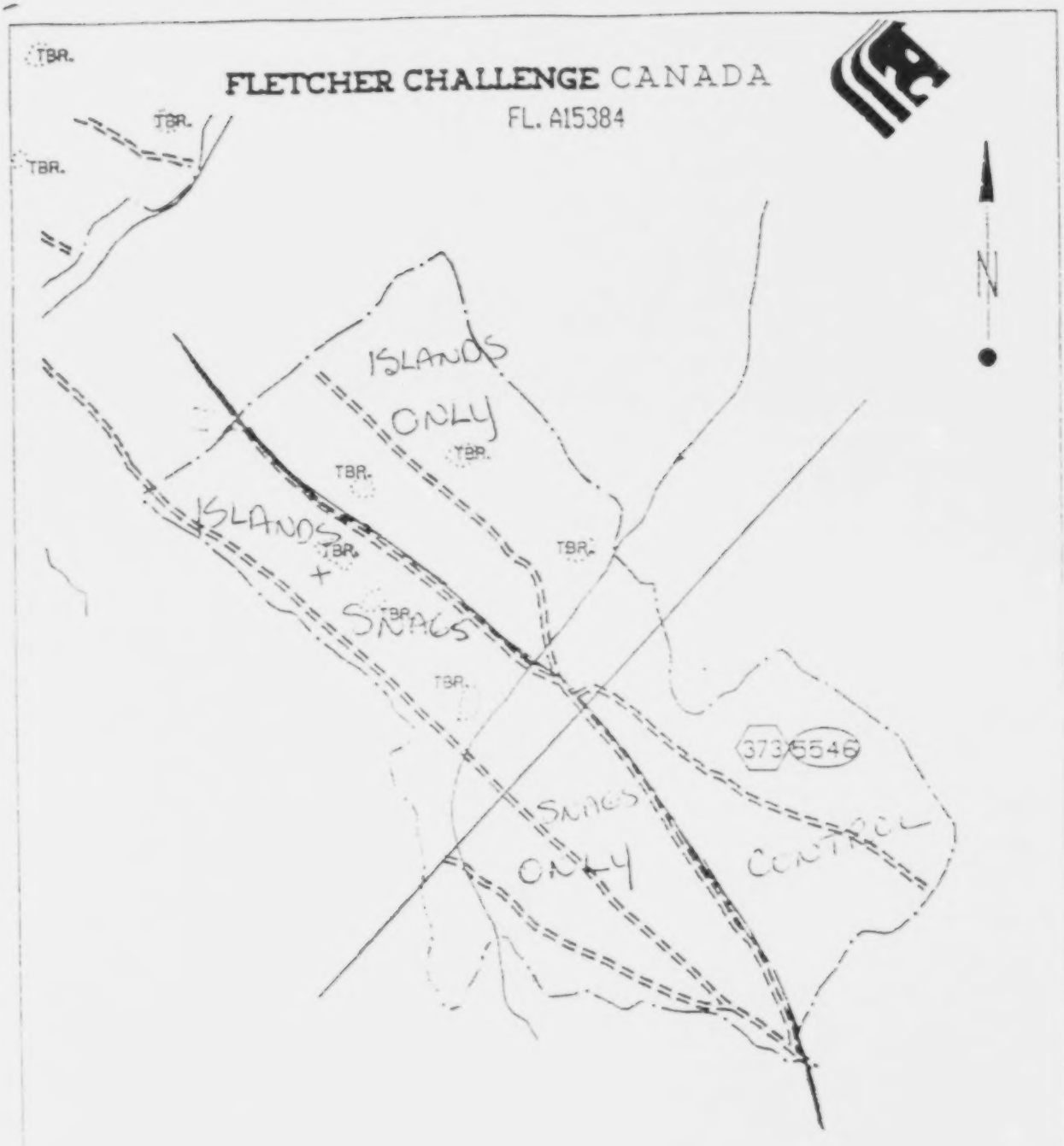
Maps of Logging Blocks Showing Treatment Areas



APPENDIX 1 MAPS

FLETCHER CHALLENGE CANADA

FL. A15384



Total Area 90.6 ha.
Roads & Landings ~~5.2~~ ha.
TBR. ~~1.2~~ ha.
Net Area ~~84.2~~ ha.

GPS Survey - 3D differentially corrected.
Date : November 28, 1991
GPS Accuracies do not apply to untraversed features.

Timber Mark _____

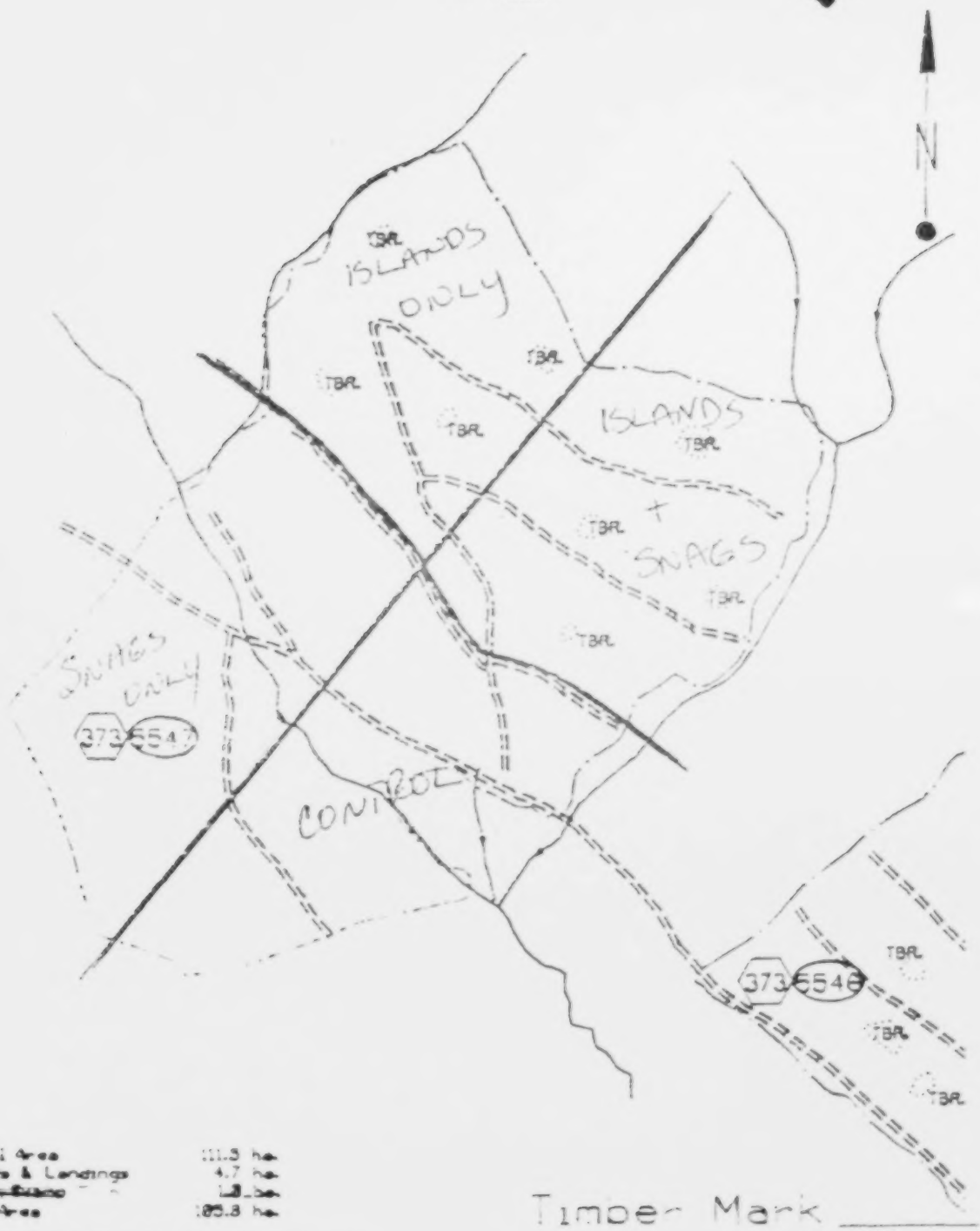
SCALE: 1:10,000

TREATMENT

C.P. 373 BLK. 5546

FLETCHER CHALLENGE CANADA

FL. A15384



Total Area	111.3 ha
Roads & Landings	4.7 ha
[illegible]	[illegible] ha
Net Area	100.8 ha

GPS Survey - 3D differentially corrected.
Date : November 28, 1991
GPS Accuracies do not apply to untraversed features.

Timber Mark _____

SCALE: 1:10,000

TREATMENT

C.P. 373 BLK 5547

371
5516
371-516
(Proposed Boundary)

APPENDIX "B"

Clippings of Press Releases

BC hydro / BC Environment

PEACE WILLISTON COMPENSATION PROGRAM
NEWS RELEASE

December 19, 1991

(PRE - RCF funding)

WILLISTON WILDLIFE COMPENSATION PROGRAM UNDERTAKES INNOVATIVE LOGGING PRACTICES

The Peace/Williston Fish and Wildlife Compensation program in conjunction with Fletcher Challenge Ltd. has developed an innovative forest harvesting approach designed to minimize long term impacts on wildlife.

The approach is the first of its kind in Northern B.C. and involves the experimental logging of approximately 300 hectares of land near the Manson River, leaving island stands of timber as well as single tree snags as habitat for birds.

Clearcut logging directly affects 20 different species of cavity nesting birds in the Mackenzie area with the elimination of snags. These dead, standing trees provide a variety of different homes and nesting sights. Predator birds such as American kestrals use the top of the snags for perching and viewing their prey, as well as nesting in cavities. Smaller birds like woodpeckers core into the centre of the decaying snag, leaving ready-made nesting sites for other birds like chickadees.

Other animals are also affected by the removal of snags. As the core of the tree trunk decays further, the cavity becomes larger. Birds move on to newer snags, and small furbearers like squirrels and marten take over. In the final stages of decay, when the tree trunk falls over, black bears use the hollowed cavities of very large snags for their own denning purposes.

Fletcher Challenge forester Richard Krygier, independent biologist Linda Murray, and Williston biologist Rick Dawson collaborated to develop the techniques and design a field test. Three blocks of land were chosen to be harvested, with each block containing four different kinds of logging practices.

In one section, ten trees per hectare, at various stages of decay, were topped and left standing approximately 30 metres apart. One third of the snags were already dead, another third were beginning to decay, and the remaining third were sound healthy trees. All the snags were cut at the ten foot level with a feller buncher.

In another section, islands of timber were left standing in the clearcut, representing a mixture of tree species at various stages of decay.

.../2

2/...WILLISTON WILDLIFE COMPENSATION PROGRAM UNDERTAKES...

In the third section of the cutblock, a mixture of the first two treatments were used, and in the last section, the trees were clearcut in the normal fashion to be used as a control.

The forest harvesting, which was contracted to Norman Kaylyn Logging, is expected to be complete by the end of 1991. Monitoring of wildlife response will begin this spring and continue for six years or more to determine long term effects. While the real success of the program won't be known for many years, biologists are confident that their efforts will go a long way towards protecting bird and animal habitat.

The Peace/Williston Fish and Wildlife Compensation Program is a joint venture of the B.C. Environment and B.C. Hydro, and is supported by an $11 million fund established by BC Hydro to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams.

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Pioneer News (Chetwynd, B.C.)

JAN -7 1992

New forest harvest approach

288

The Peace/Williston Fish and Wildlife Compensation program has developed a forest harvesting approach with Fletcher Challenge, which is designed to minimize long-term impacts on wildlife. The approach involves the experimental logging of approximately 300 hectares of land near the Manson River, leaving island stands of timber, as well as single tree snags, as habitat for birds.

Clearcut logging directly affects 20 different species of cavity nesting birds in the Mackenzie area with the elimination of snags. These dead, standing trees provide a variety of different homes and nesting sights. Predator birds, such as American kestrels, use the top of the snags for perching and viewing their prey, as well as nesting in cavities. Smaller birds like woodpeckers core into the centre of the decaying snag, leaving ready-made sites for other birds like chickadees.

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For a field test, three blocks of land have been chosen to be harvested, with each block containing four different kinds of logging practices.

In one section, 10 trees per hectare, at various stages of decay, were topped and left standing approximately 30 metres apart. One third of the snags were already dead, another third were beginning to decay, and the remaining third were sound, healthy trees. All the snags were cut at the 10-foot level with a feller buncher.

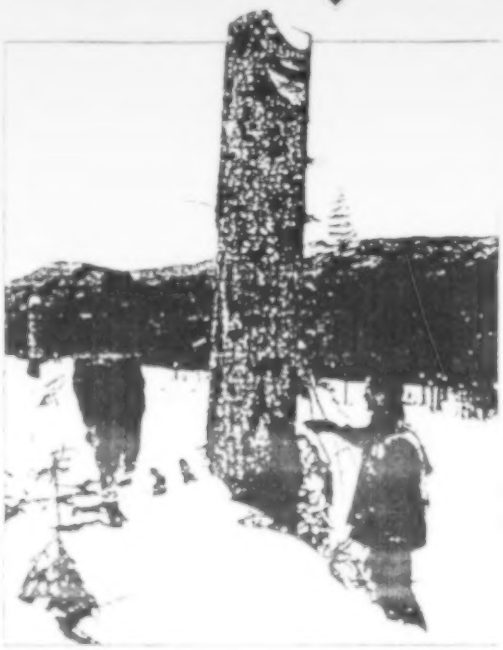
In another section, islands of timber were left standing in the clearcut, representing a mixture of tree species at various stages of decay.

In the third section of the cutblock, a mixture of the first two treatments were used, and on the last section, the trees were clearcut in the normal fashion to be used as a control.

The forest harvesting, contracted to Norman Kaylyn Logging, is expected to be complete by the end of 1991. Monitoring of wildlife response will begin this spring and continue for six years or more to determine long-term effects. While the real success of the program won't be known for many years, biologists are hoping that their efforts will help in protecting bird and animal habitat.

The Peace/Williston Fish and Wildlife Compensation Program is a joint venture of the B.C. Environment and B.C. Hydro, established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams.

Logging plan leaves room for the woodpeckers



A condo for critters. Biologist Richard Kreyger inspects one of Mackenzie Forest Operations experiments: a "fluted snag" designed to encourage a pileated woodpecker to excavate a nesting cavity about three metres above ground. Crossbeams will prevent the tree from falling down.

An experimental logging program at Mackenzie is testing the notion that dead trees are beautiful.

To loggers, standing dead trees (commonly called snags) are at best a hindrance and at worst a safety hazard. But to dozens of bird and animal species, snags can be a vital source of food and shelter.

That's why Fletcher Challenge Canada's Mackenzie Woodlands Division and the B.C. Ministry of Environment (MoE) are co-operating in a pioneering study on maintaining snags for wildlife habitat in logged areas.

"We're always looking for ways to manage our harvesting activities that will reduce their environmental impact on wildlife," says Richard Kreyger, divisional forester for Mackenzie's Pinkerton area. "There's no question that eliminating [any] [illegible] species that depend on snags. This is an attempt to see what can be done to relieve that pressure."

The project is a first for the northern half of B.C. A similar program is under way in the inland Okanagan region, but Richard says the Mackenzie project is broader in scope.

The experiment involves [illegible] of three metres (10 feet), turning them into instant snags. In a second section, clumps of living and dead trees are left here and there to serve as "recruiting areas" for future snags. In the third section the first two treatments are combined.

The remaining section is harvested as per standard practice, for purposes of comparison — what foresters call "the control."

Mackenzie test preserves snags as source of food and shelter for wildlife

This winter, three cutblocks in the Donna Creek area will suggest [illegible] will there be in the Engelmann spruce/subalpine fir biogeoclimatic zone. Richard is now looking for suitable sites in the subboreal spruce zone.

The aim of the project is to create a variety of snags — dead, living, leaning, tall, stiff — to suit the needs of the various species who will find which of the three treatments works best. By leaving islands of living trees, [illegible] can avoid [illegible] [illegible] [illegible]

BC hydro / BC Environment

PEACE WILLISTON COMPENSATION PROGRAM
NEWS RELEASE

July 17, 1992

MONITORING UNDERWAY FOR INNOVATIVE CAVITY NESTER PROGRAM

Monitoring work has begun on a unique enhancement project in the Mackenzie region designed to maintain habitat elements for cavity-dependent wildlife species.

The cavity nester program is the first of its kind in Northern B.C. and is a cooperative effort of the Williston Wildlife Compensation Program (a BC Hydro/BC Environment initiative), Fletcher Challenge Canada Ltd. and the Habitat Conservation Fund.

Through the use of alternate logging practices, individual snags and "islands" of timber are left standing at various stages of decay in traditional clearcuts. These old, dead and decaying trees are called *wildlife trees* because they provide vital sources of cavities for birds and animal species to nest and rear their young. Wildlife trees also harbour food supplies such as insects and arboreal lichens, and are used as hunting platforms for predatory birds.

"By testing several alternate forest harvesting techniques, we hope to determine which logging method will benefit cavity nesting birds and animals," said Mari Wood, Williston Wildlife Compensation biologist.

In the fall of 1991, logging was modified in three different test blocks located in the Englemann Spruce Subalpine Fir Zone. Each block contains four different treatments.

In one treatment, a variety of species of trees at different stages of decay from living, dying to already dead, were topped at a height of three metres, resulting in eight to 10 snags per hectare in the clearcut.

In the second treatment, clumps of standing timber were left in "islands" approximately one-quarter hectare in size, at a density of one island for every eight hectares. These clumps contain a variety of tree species in various stages of decay.

In the third treatment, a combination of single snags and islands were left standing. The fourth treatment was clearcut according to normal practice with no standing timber, and will be used for comparative purposes.

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Monitoring work in one of the treatment areas got underway in June. "What we're doing now is collecting data on the attributes of each wildlife tree. For instance, we're documenting tree species and size, the stage of decay, and the wildlife, perching and feeding use of each tree," said Wood. "All areas will be monitored over the next ten years or more."

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The cavity nester program is just one of several ongoing projects conducted under the auspices of the Williston Wildlife Compensation Program, a joint venture of BC Hydro and BC Environment. The wildlife portion of the program is supported by a $5 million dollar fund established by BC Hydro to enhance and protect wildlife resources affected by the construction of the W.A.C. Bennett Dam.

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D.J. READ
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Alaska Highway News
Fort St. John, B.C.
07/21/92

Cavity nester testing going on at present across area

Monitoring work has begun on a unique enhancement project in the Mackenzie region designed to maintain habitat elements for cavity-dependent wildlife species.

The cavity nester program is the first of its kind in Northern B.C. and is a cooperative effort of the Williston Wildlife Compensation Program (a BC Hydro/BC Environment initiative), Fletcher Challenge Canada Ltd. and the Habitat Conservation Fund.

Through the use of alternate logging practices, individual snags and "islands" of timber are left standing at various stages of decay in traditional clearcuts. These old, dead and decaying trees are called wildlife trees because they provide vital sources of cavities for birds and animal species to nest and rear their young. Wildlife trees also harbour food supplies such as insects and arboreal lichens, and are used as hunting platforms for predatory birds.

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COMPARING

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D.J. READ COMMUNITY RELATIONS COORDINATOR	
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Dawson Creek Mirror
Dawson Creek, B.C.
07/27/93

Joint project for cavity-dependent wildlife

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"By testing several alternative forest harvesting techniques, we hope to determine which logging method will benefit cavity nesting birds and animals," said Mark Wood, Williston Wildlife Compensation biologist.

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Monitoring work is one of the treatment areas got underway in June. "What we're doing now is collecting data on the attributes of each wildlife tree. For instance, we're documenting tree species and size, the stage of decay, and the wildlife, perching and feeding use of each tree," said Wood. "All areas will be monitored over the next ten years or more."

This winter, studies will include furbearer track surveys, which determine the type of wildlife using the treatment areas by recording tracks in the snow. In the spring, studies will focus on breeding bird surveys, as well as a vegetative growth study, which will monitor the relationships between vegetation stages and wildlife use of the cutblock.

"The work we're doing is very exciting," said Wood. "We have the cooperation of a major forest company which is just as enthusiastic as we are in finding ways to reduce the impact of forest harvesting on wildlife." Wood says while the cavity nester program is one of only a few in the province, she's hoping the idea will catch on with other forest companies.

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Peace River Block News
Dawson Creek, B.C.
07/31/92

Habitat conservation

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Peace River Block News
Dawson Creek, B.C.
08/04/92 AUG 4 1992

Habitat conservation work is well under way

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